

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference PCT20037JHHBRY1	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/EP2004/002417	International filing date (day/month/year) 09/03/2004	(Earliest) Priority Date (day/month/year)
Applicant COOPER CAMERON CORPORATION		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the International application in the language in which it was filed, unless otherwise indicated under this item.

The international search was carried out on the basis of a translation of the International application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the International application, see Box No. I.

2. Certain claims were found unsearchable (See Box II).

3. Unity of invention is lacking (see Box III).

4. With regard to the title,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the abstract,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this International search report, submit comments to this Authority.

6. With regards to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. 1.

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

- b. none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/EP2004/002417

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B01D21/00 B01D21/26 B01D17/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 626 237 A (GALLOWAY JR JIMMIE G) 2 December 1986 (1986-12-02) column 4, line 55 - column 5, line 17; figures 1,8	1-4, 16-20, 23,30
A	EP 1 352 679 A (COOPER CAMERON CORP) 15 October 2003 (2003-10-15) abstract; figure 1	1-30
A	US 5 248 421 A (ROBERTSON GLEN A) 28 September 1993 (1993-09-28) abstract; claim 1; figure 1	1-30

Further documents are listed in the continuation of box C

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *C* earlier document but published on or after the International filing date
- *E* document which may throw doubts on priority, claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the International filing date but later than the priority date claimed

T later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

B document member of the same patent family

Date of the actual completion of the International search

9 November 2004

Date of mailing of the International search report

16/11/2004

Name and mailing address of the ISA

European Patent Office, P.O. 5010 Palaoflaan 2
NL - 2280 HV Haarlem
Tel. (+31-70) 340-2040, TX 31 651 epo16
Fax: (+31-70) 340-3016

Authorized officer

Degen, M

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/002417

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 4626237	A	02-12-1986	AU	576464 B2	25-08-1988	
			AU	5101785 A	19-06-1986	
			BR	8506112 A	19-08-1986	
			CA	1251184 A1	14-03-1989	
			CN	85109021 A	27-08-1986	
			DE	3543260 A1	12-06-1986	
			FR	2574307 A1	13-06-1986	
			GB	2168267 A ,B	18-06-1986	
			JP	61153107 A	11-07-1986	
			NL	8503307 A	01-07-1986	
			NO	854868 A ,B,	11-06-1986	
EP 1352679	A	15-10-2003	EP	1352679 A1	15-10-2003	
			WO	03086570 A1	23-10-2003	
US 5248421	A	28-09-1993		NONE		